

APPENDIX I

CSUS State Agency Survey of the Environmental Impacts of Ferrets

In 1996–1997, CDFW staff performed a survey of all the wildlife agencies in the USA for data and policy on environmental impacts of domesticated ferrets (Jurek and Ryan 1999). Results from that survey were used by California Fish and Game Commission to uphold the ban on ferret ownership. Requests by pro-ferret groups to remove the ban precipitated the need for newer survey data as part of the preparation of an environmental impact report. Biologists at California State University at Sacramento (G. O. Graening, Principal Investigator) performed a survey of State agencies to address this data gap and the results are presented next. Dr. Eric Loft (CDFW Wildlife Branch Chief) approved the concept of the agency survey, and delegated oversight of the survey to Dale Steele (CDFW Program Manager, Species Conservation & Recovery).

The goal of this study was to replicate and update the Jurek and Ryan (1999) survey. In our review of the agency responses to the Jurek and Ryan (1999)'s questionnaire, it became apparent that many wildlife agencies did not want to, or could not, respond to the questionnaire because another agency in their State (agriculture or health agency) regulated ferrets and thus, kept the pertinent records or policies. Therefore, an attempt was made to get a response from each State's health agency and agriculture agency, not just their wildlife agency. Some questions were added or modified to address concerns expressed by the California Fish and Game Commission or CDFW. Another modification was the addition of questions that allowed the agency respondent to estimate a range (in order of magnitude) using their professional opinion, such as a range in the number of ferret attacks on humans per year, where such exact data were not available to them. The questionnaire was disseminated in hardcopy and it was also produced as a Microsoft Word 2003 document using password-protected form fields and an Adobe Acrobat 9 Portable Document Format (PDF) password-protected form, both of which allowed respondents to type in their responses via computer, but not alter the questions, and submit the finished survey by email. A copy of the blank questionnaire is provided. The questionnaire was distributed by US Postal Service and electronically by email; return envelopes (pre-paid Federal Express air bills) addressed to the CSUS Department of Biological Sciences were provided with the mailed questionnaires to facilitate questionnaire submittal. Logs were kept of all correspondence with governmental officials (available upon request). Email correspondence was saved in its native format (Microsoft Outlook file format ".msg") and printed to PDF. All survey responses and logs were submitted to CDFW (via Dale Steele) for their own interpretation of raw data.

Completed questionnaires received as email attachments were saved in their native formats and also printed to PDF and questionnaires received by US Postal Service or by Federal Express were digitally scanned to PDF (available upon request). Some States sent separate responses from each participating agency; other States combined their answers into one response. Many respondents sent in questionnaires with many questions left blank, and answered only questions in their area of expertise. Unclear answers were followed up by telephone call. For those agencies who did not submit a completed questionnaire, an attempt was made to interview the appropriate agency personnel by phone and complete answers to the questionnaire by this method. Of the possible 150 State agencies in the USA (a wildlife, agriculture, and health agency in each State), 39 wildlife agencies, 20 agricultural agencies, and 17 health agencies

provided at least a partial response (see Table 1). The global economic recession had apparently hindered response to our questionnaires, as several agency personnel stated that they did not have sufficient manpower or funds to participate in the study, and often blamed the national economic recession.

The responses to the questionnaire were entered into a relational database (Access 2007, Microsoft, Inc.) and summarized below. For brevity, standard State postal abbreviations were used. Results of the questionnaire are discussed in the following academic report that was submitted to CDFW and the California Fish and Game Commission:

Graening, G. O. 2010. Analysis of the potential impacts of domesticated ferrets upon wildlife, agriculture, and human health in North America, with a focus upon California, based upon literature review and survey of North American governmental agencies. University Enterprises, Inc., Grant Number 517021. Prepared for California Fish and Game Commission. Department of Biological Sciences, California State University, Sacramento, CA, USA.

Table 1. Summary of State Agency Response to the CSUS Survey on Ferret Impacts. “X” indicates the agency responded to the survey.

	Wildlife Agency	Agriculture Agency	Health Agency
Alabama (AL)	X		X
Alaska (AK)	X		
Arizona (AZ)	X		
Arkansas (AR)	X	X	X
California (CA)		X	
Colorado (CO)		X	
Connecticut (CT)			X
Delaware (DE)	X	X	
Florida (FL)		X	
Georgia (GA)	X	X	
Hawai’i (HI)		X	
Idaho (ID)	X		X
Illinois (IL)	X	X	
Indiana (IN)	X		
Iowa (IA)	X	X	
Kansas (KS)	X	X	
Kentucky (KY)	X		X
Louisiana (LA)	X		X
Maine (ME)	X	X	X
Maryland (MD)	X	X	X
Massachusetts (MA)	X		
Michigan (MI)		X	
Minnesota (MN)	X	X	X
Mississippi (MS)	X		
Missouri (MO)	X		
Montana (MT)	X		
Nebraska (NE)	X		
Nevada (NV)	X		
New Hampshire (NH)	X		
New Jersey (NJ)	X	X	X
New Mexico (NM)	X		
New York (NY)	X		
North Carolina (NC)	X		
North Dakota (ND)			X
Ohio (OH)			X
Oklahoma (OK)	X	X	
Oregon (OR)			X
Pennsylvania (PA)	X		
Rhode Island (RI)	X		

	Wildlife Agency	Agriculture Agency	Health Agency
South Carolina (SC)	X		
South Dakota (SD)	X	X	
Tennessee (TE)	X		
Texas (TX)	X		
Utah (UT)		X	
Vermont (VT)	X		
Virginia (VI)			X
Washington State (WA)	X	X	X
Washington, District of Columbia (DC)			X
West Virginia (WV)	X		
Wisconsin (WI)	X	X	
Wyoming (WY)	X		X
Totals	39	20	17

Part 1: History of the Domesticated Ferret

Survey question: “The domesticated ferret was first introduced / imported into my State in the year ____.”

In the 1700’s = MA, VI

In the 1800’s = IA

In the early 1900’s = NY, OH

In the 1950s = MT

In the 1960s = IA, NM, OK

In the 1970s = DC, KY, MN, ND (2), OK, WY

In the 1980s = AK, CT, IN, ME, WA;

In the 1990s = MI, RI, WV

In 2008 = HI

“Not known to exist in my State” = DE, ID, IL, NH, NC, VT, WI

“Don’t know” = AL, AR, AZ, CO, CT, GA, KS, LA, MD, MN(2), MO, NV, NJ, OR, PA, SC, SD(3), TN, TX, UT, WA(2)*, WI

The rest of the State agency responses were left blank

**Note: when more than one agency in the same State responded to a question, we noted the tally in parentheses. For example, “IA(2)” indicates that two different Iowan agency personnel responded.*

Survey question: “When did your State begin to regulate importation or possession of domesticated ferrets?”

In 1905 = HI

In 1911 = NY

In 1929 = NE

In the 1930’s: CA, MA,

In the 1960’s: IA

In the 1970’s: KS, DC, NJ,

In the 1980’s: ME, PA, VT

In the 1990’s: GA, MI, RI

In the 2000’s = AL, AR, DW, ND, SC

“Never regulated” = AK, AR, AZ, DE, ID, IL, IN, KY, MD, MN, MO, MT, NH, NM, NV, OH, OK(2), OR, TN, TX, WA, WV, WI(2), WY

“Unknown” = CO, CT, ID, IL, LA, MN, VI

“Not applicable” = AZ

The rest of the State agency responses were left blank.

Part 2: Nomenclature and Classification

Survey question: “Which of these terms are used in your State to refer to the domesticated ferret (*Mustela putorius furo*)?”

The following States use the term ‘ferret’ or ‘domestic ferret’ or ‘European ferret’: AK, AL, AR(2)*, CA, CO, CT(2), DC, DE(2), GA, HI, IA(2), ID, IL, IN, KS, KY(2), LA, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NJ, NM, NV, NY(2), OH, OK(2), OR, PA, RI, SC, SD(2), TN, VI, VT, WA(3), WI(2), WV, WY(2).

Notes: WY and IA also use the term ‘polecat’. NY, WI, and WY also use the term ‘fitch’ or ‘fitch-ferret’. Some States use the trinomen *Mustela putorius furo*: AK, CA, GA, HI, MA, OH, VI, and VT. MI uses the binomen *Mustela furo*, and NV uses the binomen *Mustela putorius*.

Survey question: “Which of these terms are used in your State to classify domesticated ferrets under any regulations or codes?”

“pet” or “domestic animal” = AK, AL, AZ, CO, CT, CT, DE, DE, GA, IA, IA, ID, IN, KS, KY(2), LA, MD, ME, MT, ND, NE, NM, OK, OR, PA, RI, SC, SD, TN, VT, WA, WA, WA, WI

“restricted animal” = CA, HI

“wild animal / wildlife” = AR, GA, IL, MN, NB, NS, NV, VI, WY

“exotic animal” = DC, NJ, TN, VI, WA, WI(2)

“nuisance animal” = WI

indicated no classification = OH, OK, MN, NH, WV

The rest of the State agency responses were left blank.

Part 3: Number of Domesticated Ferrets in Your State

Survey question: “Please estimate the total number of domesticated ferrets in your State”

“An estimated ___ domesticated ferrets exist in my State” = null

Notes: No State agency respondent gave a firm estimate or census of ferrets in their State based upon empirical data. It was anticipated that many agency respondents would lack empirical data to give a specific numerical estimate, so an additional response choice was offered based upon ranges. Most State agency biologists were comfortable with estimating the pet ferret population in their State to the nearest order of magnitude.

Survey question: “Can’t say precisely, but my professional estimate of the range of domesticated ferrets that exist in my State is: 1 to 1,000 ferrets; 1,000 to 10,000; 10,000 to 100,000; greater than 100,000”.

“1 to 1,000 ferrets” = AK, DC, DE, HI, IA(2), KY, OK, MT, NY, SD, WA, WV, WY(2)

“1,000 to 10,000” = AL, AZ, CO, CT(2), GA, MA, MD, ME, MI, MS, ND, NJ, NM, OK, PA, SC, VI, VT, WA(2), WI

“10,000 to 100,000” = CA, IN, MN, NY

“Greater than 100,000” = null

“Don’t Know” = ID, IL, LA, NC, NE, NJ, NV, OH, OR, TX, UT

The rest of the State agency responses were left blank.

Part 4: Regulation of Domesticated Ferrets

Survey question: “Is the importation or possession of domesticated ferrets regulated in your State?”

“Yes” = CA, HI.

“No” = All other States and the District of Columbia answered “No.” Some States noted that they allow possession only with proof of vaccination or with the purchase of a permit.

Survey question: “Are you aware of any local government agencies in your State that have adopted ordinances prohibiting ownership of domesticated ferrets?”

All respondents answered “no” or left no response; the exception was New York (State), which indicated that New York City prohibits ferret ownership.

Survey question: “Was an environmental impact statement, or other environmental assessment or written evaluation, prepared for legalizing domesticated ferret ownership in your state?”

“Yes” = DC, HI

“No” = AK, AL, AR, AZ, CA, CT(2), DE(2), GA, IA(2), ID, IL, IN, KS, KY(2), MA, MD, MI, MN(3), MT, NC, ND, NE, NJ, NM, NV, NY(2), OH, OK(2), OR, PA, RI, SC, SD, TN, VI, VT, and WA(3).

The rest of the State agency responses were left blank.

Survey question: “Do you have state regulations that clearly prohibit the release of domesticated ferrets from captivity?”

“Yes” = AK, AR, CA, CT, GA, HI, IA, ID, IL, KY(2), MA, MI, MO, MT, ND, NE, NJ, NV, PA, RI, TN, VI.

“No” = AL, AZ, CO, DC, DE, IA, IN, KS, LA, MD, MN(3), NC, NH, NJ, NM, NY(2), OH, OK(2), OR, SC, SD, VT, WA(3), WI(2), WV, WY(2).

The rest of the State agency responses were left blank.

Part 5: Domesticated Ferrets and Agriculture Issues

Survey question: “Are there instances of domesticated ferrets killing or otherwise harassing livestock in your State?”

“Yes. There are __ instances per year.” = null

“Yes. There are __ instances over the time period of record keeping. Records have been kept since year: __.” = null

“Don’t know exactly, but my professional estimate is 0 to 1 instances per year.” = DC, LA, NE, NV, WI

“Don’t know exactly, but my professional estimate is 1 to 10 per year.” = AK, OK, WY

“Don’t know exactly, but my professional estimate is 10 to 100 per year.” = null

“No” = AL, CO, CT(2), DE, GA, HI, IA(2), IL(2), IN, KS, KY, MA, MN, MS, MT, ND, NH, NJ, NY, OK, OR, RI, TX, UT, VI, VT, WA, WV, WY

“Don’t Know” = AR(2), AZ(2), CA, DE, ID, KY, MD, ME, MI, MN, MO, NC, NJ, NM, NY, OH, PA, SC, SD, TN, WA(3), WI

The rest of the State agency responses were left blank.

Survey question: “Are there instances of domesticated ferrets killing or harassing wildlife in your State?”

“Yes. There are __ instances per year.” = null

“Yes. There are __ instances over the time period of record keeping. Records have been kept since year: __.” = null

“Don’t know exactly, but my professional estimate is 0 to 1 instances per year.” = LA, NE, NV, WI, WY

“Don’t know exactly, but my professional estimate is 1 to 10 per year.” = AK, OK

“Don’t know exactly, but my professional estimate is 10 to 100 per year.” = NM

“No” = AL, GA, IA(2), IL(2), IN, KS, MA, MN, MS, MT, NH, NJ, NY, OK, OR, RI, SD, TX, UT, VI, VT, WA, WV, WY

“Don’t Know” = AR(2), AZ(2), CA, CO, CT(2), DC, DE, DE, HI, ID, KY(2), MD, ME, MI, MN, MO, NC, ND, NJ, NY, OH, PA, SC, SD, TN, WA, WA, WA, WI

The rest of the State agency responses were left blank.

Part 6: Domesticated Ferrets and Human Health Issues

Survey question: “Are there instances of domesticated ferrets attacking, biting, or otherwise hurting humans in your State?”

“Yes. There are __ instances over the time period of record keeping. Records have been kept since year: __.” =

- SD responded with 4 instances per year, record period is 1990 to 2008.
- AL responded with 10 to 20 instances per year [no record period given]
- GA reported 41 instances over the time period of record keeping; records kept since year 2003
- OH reported 16 instances over the time period of record keeping; records kept since year 2008

“Don’t know exactly, but my professional estimate is 0 to 1 instances per year.” = ND, VT

“Don’t know exactly, but my professional estimate is 1 to 10 per year.” = AK, AR, CO, CT(2), DC, IA, KS, ME, MN, MT, ND, NY, RI, SC, SD, WA, WY

“Don’t know exactly, but my professional estimate is 10 to 100 per year.” = IA, MD, MI, VI, WI

“Don’t know exactly, but my professional estimate is 100 to 1,000 per year.” = MN, NJ

“No” = IN, KY, MA, OR, WV

“Don’t Know” = AR, AZ(2), CA, DE, DE, HI, ID, IL, KY, LA, MN, MO, NE, NH, NJ, NM, NV, NY, OK(2), PA, TN, WA, WA, WA, WI, WY,

The rest of the State agency responses were left blank.

Survey question: “Are there instances of domesticated ferrets contracting rabies (Lyssavirus) in your State?”

“Yes. There are __ instances over the time period of record keeping. Records have been kept since year: __.” =

- AR (2): 1 instance; records kept since 1990
- CT(2): 1 instance; records kept since 1991
- MI: 1 instance; records kept since 1978
- ND: 2 instances; records kept since 1950
- NJ: 3 instances; records kept since 1989

“Don’t know exactly, but my professional estimate is 0 to 1 instances per year.” = AK, IA, SD

“Don’t know exactly, but my professional estimate is 1 to 10 per year.” = null

“Don’t know exactly, but my professional estimate is 10 to 100 per year.” = null

“Don’t know exactly, but my professional estimate is greater than 100 per year.” = null

“No” = AL, AZ(2), CO, DC, DE, GA, IA, ID, IL, KS, MA, ME, MN(2), MO, MT, NY, OH, OR, RI, UT, VI, VT, WA, WA, WI, WV, WY

“Don’t Know” = CA, DE, HI, IN, KY(2), MN, NE, NH, NJ, NM, NV, NY, OK, OK, PA, SC, TN, WA, WA, WI, WY

The rest of the State agency responses were left blank.

Part 7: Number of Domesticated Ferrets Abandoned, Stray, Escaped, or Feral / In the Wild

Survey question: “Are there abandoned, stray, or otherwise unconfined domesticated ferrets in your State?”

“Yes. There are __ feral breeding populations known in my State over the time period of record keeping. Records have been kept since year: __.”

- WA(2) responded “There are unconfined domesticated ferrets known in my State” [no quantity given; no time period given]

“Don’t know exactly, but my professional estimate is 0 to 1 ferrets.” = null

“Don’t know exactly, but my professional estimate is 1 to 10 ferrets.” = DC, IA, MI, ND, OK, VI, WA, WI, WY

“Don’t know exactly, but my professional estimate is 10 to 100 ferrets.” = AZ, SD, WI

“Don’t know exactly, but my professional estimate is greater than 100 ferrets.” = null

“No” = HI, MA, NH, NJ, OR, SD, UT, WV

“Don’t Know” = AK, AL, AR, AZ, CA, CO, CT(2), DE(2), GA, IA, ID, IL(2), IN, KS, KY(2), LA, MD, ME, MN(2), MO, MT, NC, NE, NJ, NM, NV, NY(2), OH, OK, PA, RI, SC, SD, TN, VT, WA, WY

The rest of the State agency responses were left blank.

Survey question: “Have any unconfined domesticated ferrets established a (feral) breeding population in your State?”

“Yes. There are __ feral breeding populations known in my State over the time period of record keeping. Records have been kept since year: __.” = null

“Don’t know exactly, but my professional estimate is 0 to 1 populations.” = null

“Don’t know exactly, but my professional estimate is 1 to 10 populations.” =

- SD = Answering differently than the other 2 agency respondents from South Dakota, Eileen Dowd Stukel (Wildlife Diversity Coordinator, South Dakota Dept. of Game, Fish, and Parks) checked “Don’t know exactly, but my professional estimate is: 1 to 10 populations” on the questionnaire, but she provided no explanation for this estimate. In a follow up phone conversation in March 2010, Dr. Graening inquired as to the specifics of this answer. Ms. Stukel stated that she had heard such information from a colleague—Dr. Kent Jensen (Department of Wildlife and Fisheries Science, South Dakota State University). In April 2010, Dr. Graening spoke to Dr. Jensen about this reference. Dr.

Jensen knew of no cases of ferrets escaping or establishing breeding populations in South Dakota (pers. comm 2010).

- WA = “*There are feral populations known in my State* [no quantity give; no time period given]. *Escaped ferrets used in falconry in San Juan Islands, specimens in UPS Slater Museum*” (Eric Cummins, Washington Department of Fish and Wildlife).

“Don’t know exactly, but my professional estimate is 10 to 100 populations.” = null

“Don’t know exactly, but my professional estimate is greater than 100 populations.” = null

“No, or probably not.” = AK, AL, AZ, CO, DE, DE, GA, HI, IA, IL, IN, KS, KY(2), MA, ME, MI, MN(2), MO, MT, ND, NE, NH, NJ, NM, NV, NY(2), OH, OK(2), PA, RI, SC, SD(2), VI, VT, WA(2), WI(2), WV, WY(2)

“Don’t Know” = AR(2), AZ, CA, CT(2), DC, IA, ID, IL, LA, MD, MN, NC, NJ, OR, SD, TN

The rest of the State agency responses were left blank.

Survey question: “Has your State made any effort to assess the status of domesticated ferrets in the wild/feral/outside of captivity?”

“Yes. If ‘yes’, indicate how this effort is made” =

- HI responded “public outreach”
- TN responded “yes” [no indication on how effort is made]

“No, but desirable.” = MD, MS

“No, not considered to be important.” = AK, AL, AR, AZ, CO, CT, DC, DE, GA, IA(2), ID, IL, IN, KS, KY(2), LA, MA, ME, MI, MN(3), MO, MT, NC, ND, NE, NH, NJ(2), NM, NV, NY(2), OH, OK(2), OR, PA, RI, SC, SD, VI, VT, WA(3), WI(2)I, WV, WY(2)

The rest of the State agency responses were left blank.

Part 8: Control of Domesticated Ferrets That Are Abandoned, Stray, Feral, or Unconfined

Survey question: “What action would be taken by your agency upon discovery of an abandoned, escaped, feral, or otherwise unconfined domesticated ferret?”

“Defer to local government management decision”, “Live trap and take to animal shelter (presumed lost pet)”, “Live trap and euthanize”, “Take by any means”, or “Other action” = AK, AL, AR, CA, CO, CT, CT, DC, DE, GA, HI, IA, ID, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ(2), NM, NV, OH, OK(2), PA, RI, SC, SD, TN, TX, VI, WA(3), WI(2), WV, WY

“No action would be taken” = AZ, AR, DE, IA, IL, KY, MN(2), NY(2), OR, VT, WA, WV, WY

The rest of the State agency responses were left blank.

Survey question: “What action would be taken by your agency upon discovery of an established (feral) breeding population of domesticated ferrets?”

“Defer to local government management decision”, “Remove / eradicate population”, or “Other action” = AK, AL, AR, AZ, CA, CO, CT(2), DC, DE(2), GA, HI, IA, ID, IL, IN, LA, MA, ME, MI, MN(3), MO, MT, NC, ND, NE, NH, NJ, NM, NV, NY(2), OH, OK(2), PA, RI, SC, SD, TN, TX, VI, WA(2), WI, WV, WY(2)

“No action would be taken” = AR, IA, KS, KY(2), MD, NJ, OR, VT, WA, WI

The rest of the State agency responses were left blank.